

Listing of the Claims:

1 (previously presented): A radio device capable of anticipating a link state as
being a standby link state or a connection link state, the radio device
operating under a frequency hopping scheme wherein the radio device
5 changes frequencies according to the link state and according to a periodic
timer that defines regular time slots, the radio device comprising:
a first register set for storing standby frequency channel parameters
relating to the standby link state;
a second register set for storing connection frequency channel parameters
10 relating to the connection link state;
a multiplexer connected to outputs of the first and second register sets for
selecting and outputting either the standby or connection frequency
channel parameters;
a link state controller connected to a selection input of the multiplexer for
15 controlling the multiplexer according to the link state of the radio
device;
a working register set connected to the output of the multiplexer for
receiving the selected frequency channel parameters output by the
multiplexer; and
20 a frequency channel controller connected to the working register set for
controlling the radio device according to the selected frequency
channel parameters;
wherein before the radio device changes frequencies from a current time slot
to a next time slot the standby frequency channel parameters for the next time
25 slot and the connection frequency channel parameters for the next time
slot are stored in the first and second register sets respectively, such that when the link
state of the radio device changes in the current time slot, the link state
controller switches the multiplexer so that the selected frequency parameters
for the next time slot are loaded into the working register set in the current
30 time slot.

2 (original): The radio device of claim 1 wherein the standby and connection frequency channel parameters are determined by a software interrupt service routine (ISR) for the next time slot during the current time slot.

5 3 (original): The radio device of claim 1 wherein the selected frequency channel parameters are loaded into the working register set ahead of the next time slot as indicated by the periodic timer.

10 4 (original): The radio device of claim 1 further comprising an RF device connected to the frequency channel controller for transmitting and receiving radio signals according to the selected frequency channel parameters.

15 5 (original): The radio device of claim 4 wherein the link state controller switches the multiplexer ahead of the next time slot by a predetermined RF settling time of the RF device.

20 6 (previously presented): The radio device of claim 4 wherein the radio device is designed and manufactured according to the specification of the Bluetooth system for wireless communications.

25 7 (original): The radio device of claim 1 wherein each link state has a different set of frequencies that are cycled through according to the frequency hopping scheme.

8 (original): The radio device of claim 1 wherein the link state is determined by information received from a second radio device.

30 9 (original): The radio device of claim 1 wherein when in the standby link state the periodic timer is generated by the radio device, and when in the connection link state the periodic timer is generated by and received from

a second radio device.

10 (previously presented): The radio device of claim 1 further comprising another link state and a corresponding third register set, wherein the multiplexer is
5 further connected to the output of the third register set for further selecting and outputting frequency channel parameters of the third register set.

11 (previously presented): A method for setting a link state for a radio device, the radio device comprising a first register set, a second register set, and a
10 frequency channel controller, the radio device operating under a frequency hopping scheme wherein the radio device changes frequencies according to the link state and according to a periodic timer that defines regular time slots, the method comprising:
storing standby frequency channel parameters for a next time slot in the
15 first register set;
storing connection frequency channel parameters for the next time slot in the second register set;
selecting the standby frequency channel parameters during a current time slot when the link state of the radio device is to be a standby link
20 state during the next time slot;
selecting the connection frequency channel parameters during the current time slot when the link state of the radio device is to be a connection link state during the next time slot; and
inputting the selected frequency channel parameters for the next time slot
25 into the frequency channel controller in the current time slot when the link state of the radio device changes in the current time slot for controlling the radio device during the next time slot.

12 (original): The method of claim 11 wherein the storing, selecting, and inputting
30 steps are synchronized through the periodic timer.

13 (original): The method of claim 11 further comprising calculating standby
frequency channel parameters and connection frequency channel
parameters using a software interrupt service routine (ISR) and forwarding
the calculated frequency channel parameters to the first and second
5 register sets.